

Special Report **Watches and Jewellery** — November**Watches & Jewellery** **Wearable technology****Smartwatches can ill-afford to skip a beat on health**

Watch brands are relying on medical functions to gain an edge on rivals in this fast-growing market



The smartwatch market has doubled to \$13bn in three years © Olivia Bee

Jonathan Margolis NOVEMBER 8 2019

Crossing the floor of the House of Commons is perhaps one of the most dramatic gestures a British member of parliament could make. But that is what Conservative MP Phillip Lee did in September, when he switched sides to join the Liberal Democrats in protest at Boris Johnson's approach to Brexit — taking the government's commons majority with him as the prime minister looked on.

He was reminded by his smartwatch of just what a giant leap he was making — it started vibrating to warn him that his heart rate had been more than 120 for more than four minutes. His first act as a Lib Dem MP was to do some deep breathing to bring it back down.

Smartwatches have featured basic fitness tracking tools since they first appeared in their modern form about a decade ago. But more advanced wrist-worn health monitoring technology — including sleep, electrocardiogram tracking and even blood pressure — has since hit the market.

Although Apple left it late to include these kinds of features in its watch — which first appeared in 2015 — the company now dominates the market. Yet the smartwatch space has become more competitive — nearly [doubling in size to \\$13bn](#) in three years, according to Euromonitor. Many technology companies-turned-watchmakers, as well as more traditional dial names, are ramping up their assault on the health market with newer features.

Samsung launched its Galaxy Watch Active2 in September and is expected to add ECG and fall-detection features early next year. Meanwhile Verily, the research arm of Google parent Alphabet, was recently granted government approval for trials of an ECG-measuring smartwatch using a technique likely to be different from Samsung's or Apple's. So long as these features are not sold as medical products, they do not require formal trials, but still have to be licensed as safe by bodies like the FDA in the US, or qualify for a CE mark in Europe.



Samsung Galaxy Watch Active 2

Japan's Omron, which is a dominant global player in home and professional blood pressure monitors, has launched a smartwatch-style blood pressure monitor in the US. The \$499 watch, called HeartGuide, has an inflatable cuff within the band. This, the company says, is more accurate than the experimental blood pressure-measuring watches offered by some other [manufacturers](#) that are equipped with infrared light sensors.

Health watches can do more than monitor heart conditions, however. PKVitality, a bio-wearables company based in France, has developed the K'Watch Glucose, which has sensors that provide continuous blood sugar level indications, invaluable data for diabetics. The company also sells a lactic acid-monitoring watch for athletes that can tell them when to stop exercising before muscle pain kicks in.

These potentially life-saving features are now dipping below the \$100 mark, as lesser-known makers enter the fray.



Apple Watch Series 5

The HRM1 from Chinese manufacturer Xonix is priced at less than \$50 and includes both ECG measuring and a body mass indicator, and is 100m water resistant.

In the smartwatch mid-price range, US group Fossil introduced its \$295 [Gen 5](#) series in August, which features a cardiogram function. “For several years, the health and wellness industry has been converging with smartwatch technology — and Fossil knew there was a tremendous opportunity to provide a connected option for the design-conscious consumer,” Steve Evans, executive vice-president at Fossil Group, told industry website [WatchPro](#) in August.

It seems this is not a view shared at Swiss rival watchmaker Swatch, which says it “doesn’t do smartwatches”.

“The main reason is that we don’t want to depend on other technology like smartphones for any kind of functioning,” the company says.

Yet some observers believe it is a case of when rather than if Swatch will enter the arena. “Swatch say they’re not interested, but we know they are working on the technology,” says Francisco Jeronimo, associate vice-president for European devices at IDC, an analyst. In 2017, the group said it was working on a proprietary [operating system](#) called Swiss OS.

“They want to make sure that if they come to the smartwatch game, they have a product [with a display that can remain] on for several days,” Mr Jeronimo adds.

One branding obstacle for the more traditional watch manufacturers is the way many smartwatches display just a black screen when worn but not in use, he says. Only the distinctive

square shape with rounded corners of the Apple Watch is an instantly recognisable brand.

“So other traditional makers, too, are looking for ways to come to the market in a way that doesn’t jeopardise their brand. They know if they don’t move on, Apple will continue to win market,” he adds.

Ostensibly this is all good news for consumers. Yet does the prospect of millions of people self-diagnosing heart conditions promise an advantage for doctors or a headache?

Mr Jeronimo recalls his surprise while signing up at a new London GP practice, when he was asked if he wanted to share his Apple Watch data. He consented because he felt it would be useful for the doctor. Yet it can be slightly harder for wearers to infer a device’s usefulness themselves.



Fossil Gen 5

On one occasion, for instance, I made the very poor decision soon after a couple of glasses of Scotch to have a workout on my exercise bike. On finishing, I felt a bit odd and ran an ECG on the Apple Watch Series 4’s built-in app. The watch makes it clear that it is not an official medical device but, nevertheless, that it is detecting some atrial fibrillation, the disturbed rhythm which can be the first sign of heart trouble.

I called a consultant friend in a panic. He diagnosed extreme stupidity rather than a heart problem — but as a techie he was nonetheless impressed that the watch had detected the issue.

As an older man living alone, I also have Apple’s fall-detector function enabled. So if I had a fall, even if I was unconscious, it would inform my children and even summon an ambulance.

Dr Arun Thiagarajan, medical director at Bupa Health Clinics, views enhanced smart watch health functions as both a plus and a potential minus.

“These devices get people engaged in their health and understanding their physiology more. But they also drive health anxiety. You can become addicted to checking your heart rate and that heightened perception and anxiety can then actually push your heart rate up,” he explains.

“As clinicians we also get angsty about patients monitoring their blood pressure,” he adds. “Blood pressure is a more complicated measure than heart rate. Acute changes aren’t significant — you need an average over three months, 24/7 to make any meaningful inferences.”

Dr Thiagarajan is more enthusiastic about ECG monitoring gadgets. KardiaMobile, a tiny £99 phone-attached monitor made by San Francisco company AliveCor, has been approved for use by some NHS GP practices in the UK, he says.

Yet the prospects for even more health features on the wrist remain exciting, at the very least for the so-called “worried well”.

Mood tracking technology from a new British wrist band device, Moodbeam, seems as if it could easily be transferable to a full smartwatch, for instance. And a watch by UK-based company BioBeats collects biometric data such as heart rate variability, which it pairs with users’ psychometric data on an accompanying app, to track and address mental wellbeing.

The [Versa](#) watch by wearables company Fitbit — which [Google agreed to buy](#) this month for \$2.1bn — can be used to track changes in menstrual cycles. This along with its [Ionic](#) model also measure blood oxygen levels, which can help detect disorders including sleep apnoea. Garmin’s Fenix 5s, meanwhile, has a similar pulse oximeter that can measure how well a wearer is acclimatising to high altitudes.

The number of health features coming to market is dizzying; any watchmakers looking to enter the wellness scene will have to hit the ground running.

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